

REMARKS

Claims 79 to 81 and 83 to 97 are pending in this patent application. No claims have been amended, canceled, or added, herein. Applicants again respectfully request reconsideration of the rejections of record in view of the following remarks.

Alleged Obviousness

A. Claims 79 to 81, 83, and 84 have been rejected under 35 U.S.C. § 103(a) as allegedly rendered obvious by Conrad, B., *et al.*, *Eur. J. Biochem.*, 1995, 230, 481-490 (“the Conrad article”) in view of U.S. patent number 5,736,499 (“the Mitchinson patent”). In response to the reply to the final rejection issued September 30, 2008 that applicants filed December 9, 2008, the Office issued an advisory action indicating that applicants’ remarks did not overcome this rejection. The Office did not address, however, applicants comments regarding the fact that the Conrad article actually teaches away from the claimed cleaning agents.

Specifically, applicants pointed out in their reply that those skilled in the art would have had *no reason* before applicants’ invention to incorporate hybrid α -amylases, such as AL34, AL76, and AL112, into detergent compositions in light of the *reduced* thermostability of the AL76 and AL112 enzymes, and the *marginally* enhanced thermostability of the AL34 enzyme, relative to the wild type *Bacillus amyloliquefaciens* α -amylase reported in the Conrad article. Those skilled in the art would have understood that α -amylases utilized in detergents must be highly thermostable to withstand the high-heat conditions under which detergents are normally used. There would thus have been little advantage, and there likely would have been disadvantages, associated with utilizing the hybrid α -amylases described in the Conrad article in detergent compositions relative to utilizing a wild type enzyme, and those skilled in the art thus would have had no reason to do so before applicants’ invention.

Moreover, applicants also pointed out that the Mitchinson patent provides no reason that would have led those skilled in the art to utilize the hybrid α -amylases described in the Conrad article in detergent compositions, and the Mitchinson patent actually indicates that α -amylases having reduced thermostability may be useful in industrial processes that require the rapid and

efficient quenching of amylolytic activity,¹ which is *not* the case with amylases used in detergent composition, which require sustained activity in high heat. The claimed cleaning agents thus would not have been obvious before applicants' invention in view of the teachings of the Conrad article and the Mitchinson patent.

If this rejection is maintained, applicants respectfully ask the Office to respond to these remarks, specifically indicating why the Conrad article as a whole would have suggested using the hybrid α -amylases described in the article in detergent compositions *rather than the wild type Bacillus amyloliquefaciens α -amylase*.

Finally, the Office asserts in the advisory action that applicants arguments in the reply filed December 9, 2008 are "premised on limitations not present in the claims." Applicants respectfully disagree with this interpretation of their remarks and point out that their arguments relate to the hybrid α -amylases described in the Conrad article and why the Conrad article and the Mitchinson patent teach away from utilizing the hybrid enzymes in detergent compositions. Applicants did *not* present arguments premised on the properties of the claimed α -amylases, but, rather, presented arguments based upon the properties of the hybrid α -amylases described in the Conrad article that would make their use in detergents disadvantageous, thus rendering the claimed compositions non-obvious.

B. Claims 85 to 97 have been rejected under 35 U.S.C. § 103(a) as allegedly rendered obvious by the Conrad article and the Mitchinson patent in view of U.S. patent number 6,656,899 ("the Sadlowski patent"). Applicants again respectfully request reconsideration and withdrawal of this rejection because it appears to be based upon the incorrect assumption that the Conrad article and the Mitchinson patent teach or suggest all the limitations of claim 79.

¹ Col. 8, line 60 to col. 9, line 2.

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PATENT

Conclusion

Applicants believe that the foregoing constitutes a complete and full response to the official action of record. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

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